

**FINAL ENVIRONMENTAL IMPACT REPORT
GRAYSON REPOWERING PROJECT**

ENVIRONMENTAL IMPACT ANALYSIS
March 1, 2018

4.7 HYDROLOGY AND WATER QUALITY

This section includes a description of the existing conditions on the Project site and surrounding areas, a comparison of pre- and post-Project conditions, a determination of the potential impacts related to the Project, and recommended mitigation measures. The purpose of this evaluation is to determine the potential impacts of the Project on surface water drainage, stormwater, and groundwater quality in the vicinity of the Project site and within the Upper Los Angeles River watershed.

4.7.1 ENVIRONMENTAL SETTING

4.7.1.1 Existing Conditions

The existing Grayson Power Plant is 100 percent paved and stormwater that falls within the power plant site, not captured within containment basins, flows to several catch basins located within the power plant site. These catch basins connect directly into five storm drain outfall lines that drain directly into either the Verdugo Wash or the Los Angeles River without any pretreatment or ability for infiltration back into the groundwater system. Stormwater that is captured in containment areas is first tested for oils or other contaminants before either being left to evaporate or being discharged to the storm drain system. Water that does contain oil or contaminants is pumped to the oil water separator for treatment before being discharged to the City's sanitary sewer system.

Regional Setting

The Project area is within the Upper Los Angeles River Watershed and directly adjacent to the Los Angeles River and Verdugo Wash, which receives drainage from an 834 square-mile area of Los Angeles County, with headwaters in the Santa Monica Mountains, Simi Hills, Santa Susana Mountains, and San Gabriel Mountains. The upper watershed contains a network of flood control dams and debris basins that flow to the Los Angeles River. The lower part of the river flows in a concrete-lined channel through a heavily urbanized portion of the county before becoming a soft bottom channel as it discharges into the San Pedro Bay.

Los Angeles County is dry during the late spring, early summer, and early fall and receives most of its rain during the winter months (November through April). Precipitation in the San Fernando Valley ranges from 15 to 23 inches per year and averages about 17 inches.

**FINAL ENVIRONMENTAL IMPACT REPORT
GRAYSON REPOWERING PROJECT**

ENVIRONMENTAL IMPACT ANALYSIS
March 1, 2018

4.7.2 LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)

Table 4-40 Applicable Federal, State, Local LORS for Hydrology and Water Quality

LORS	Administering Agency
Federal	
Clean Water Act	U.S. Environmental Protection Agency and U.S. Army Corps of Engineers
Section 401 Water Quality Certification	Regional Water Quality Control Board
Section 402 National Pollutant Elimination Discharge System	State Water Resources Control Board
Section 303 Water Quality Standards and Implementation Plans	U.S. Environmental Protection Agency, State Water Resources Control Board, and Regional Water Quality Control Board
State	
Porter-Cologne Water Quality Act	Regional Water Quality Control Board
Local	
City of Glendale Municipal Code, Chapter 31.42 – Stormwater and Urban Runoff Pollution Prevention Control	City of Glendale
Note: Limited to LORS applicable to potentially significant impacts identified through Initial Study.	

Federal LORS

Clean Water Act

The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq.), formally the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA required states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint – source discharges to surface water. Those discharges are the regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The Project site is within the Los Angeles RWQCB. Projects that disturb one or more acres, including the Project, are required to obtain NPDES coverage under the Construction General Permit. In addition, the Project will be required to obtain NPDES coverage under the Industrial General Permit upon construction completion once operations begin.

Section 401, Water Quality Certification

Section 401 of the CWA requires that, prior to issuance of any federal permit or license, any activity, including river or stream crossing during road, pipeline, or transmission line construction, which may result in discharges into waters of the U.S., must be certified by the state, as administered by the RWQCB. This certification ensures that the proposed activity does not violate state and/or federal water quality standards



FINAL ENVIRONMENTAL IMPACT REPORT GRAYSON REPOWERING PROJECT

ENVIRONMENTAL IMPACT ANALYSIS
March 1, 2018

Section 402, National Pollutant Discharge Elimination System (NPDES).

General Construction Permit

Section 402 of the Clean Water Act authorizes the State Water Resources Control Board (SWRCB) to issue a NPDES General Construction Storm Water Permit (Water Quality Order 2009-0009-DWQ), referred to as the "General Construction Permit." Construction activities can comply with and be covered under the General Construction Permit provided that they:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters.
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation.
- Perform inspections of all BMPs.
- Certify and submit all permit-related compliance documents via the Storm Water Multiple Application and Report Tracking System (SMARTS). Dischargers shall certify and submit these documents which include, but are not limited to, Permit Registration Documents (PRDs) including Notices of Intent (NOIs), SWPPPs, as well as Annual Reports, and Notices of Termination (NOTs).

NPDES regulations are administered by the Los Angeles RWQCB. Projects that disturb one or more acres, including the Project, are required to obtain NPDES coverage under the Construction General Permit.

Industrial General Permit

Section 402 of the Clean Water Act authorizes the SWRCB to issue a NPDES Industrial General Storm Water Permit (Water Quality Order 2014-0057-DWQ), referred to as the "Industrial General Permit." Industrial activities can comply with and be covered under the Industrial General Permit provided that they:

- Eliminate unauthorized non-storm water discharges (NSWDs);
- Develop and implement a SWPPP that includes BMPs;
- Implement minimum BMPs, and advanced BMPs as necessary, to achieve compliance with the effluent and receiving water limitations of the Industrial General Permit;
- Conduct monitoring, including visual observations and analytical storm water monitoring for indicator parameters;
- Compare monitoring results for monitored parameters to applicable numeric action levels (NALs) derived from the USEPA 2008 Multi-Sector General Permit for Storm Water Discharge Associated with Industrial Activity and other industrial storm water discharge monitoring data collected in California;

FINAL ENVIRONMENTAL IMPACT REPORT GRAYSON REPOWERING PROJECT

ENVIRONMENTAL IMPACT ANALYSIS
March 1, 2018

- Perform the appropriate Exceedance Response Actions (ERAs) when there are exceedances of the NALs; and,
- Certify and submit all permit-related compliance documents via the SMARTS. Dischargers shall certify and submit these documents which include, but are not limited to, PRDs including NOIs, No Exposure Certifications (NECs), and SWPPPs, as well as Annual Reports, NOTs, Level 1 ERA Reports, and Level 2 ERA Technical Reports.

NPDES regulations are administered by the Los Angeles RWQCB. Industrial storm water dischargers, including the Project, are required to obtain NPDES coverage under the Industrial General Permit. Current operation of the Grayson Power Plant is covered by the Industrial General Permit.

Section 303, Water Quality Standards and Implementation Plans

Section 303(d) of the CWA (33 USC 1250, et seq., at 1313(d)) requires states to identify "impaired" water bodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to the United States Environmental Protection Agency (USEPA) for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters and watersheds for future development of Total Maximum Daily loads (TMDL) requirements. The SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDL requirements. According to the County of Los Angeles, Bureau of Land Management (BLM) ArcGIS Industrial Storm Water Map, the Verdugo Wash Reach 1 (Los Angeles River to Verdugo Road), adjacent to the Project, is identified as impaired with E. coli, enterococcus, and copper. This same map identifies the section of the Los Angeles River running adjacent to the Project, Reach 3 (Figueroa Street to Riverside Drive), as impaired with ammonia, copper, lead, nitrate, nitrite, total nitrogen, low dissolved oxygen, high temperature, and total phosphorous.

State LORS

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.), passed in 1969, requires protection of water quality by appropriate designing, sizing, and construction of erosion and sediment controls. The Porter-Cologne Act established the SWRCB and divided California into nine regions, each overseen by a RWQCB. The SWRCB is the primary State agency responsible for protecting the quality of the State's surface and groundwater supplies and has delegated primary implementation authority to the nine RWQCBs.

The Porter-Cologne Act assigns responsibility for implementing the Clean Water Act Sections 401 through 402 and 303(d) to the SWRCB and the nine RWQCBs. The Porter-Cologne Act requires the development and periodic review of water quality control plans (basin plans) that designate

FINAL ENVIRONMENTAL IMPACT REPORT GRAYSON REPOWERING PROJECT

ENVIRONMENTAL IMPACT ANALYSIS
March 1, 2018

beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters, provide the technical basis for determining waste discharge requirements, identify enforcement actions, and evaluate clean water grant proposals. The basin plans are updated every three years. Compliance with basin plans is primarily achieved through implementation of the NPDES, which regulates waste discharges as discussed above.

The Porter-Cologne Water Quality Control Act requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the "waters of the State," file a report of waste discharge (ROWD). Absent a potential effect on the quality of "waters of the State," no notification is required. However, the RWQCB encourages implementation of BMPs similar to those required for NPDES storm water permits to protect the water quality objectives and beneficial uses of local surface waters as provided in the Lahontan Region Water Quality Control Plan (Basin Plan) (RWQCB, 1995).

Local LORS

City of Glendale Municipal Code; Chapter 13.42, Storm Water and Urban Runoff Pollution Prevention Control

Chapter 13.42 of the Glendale Municipal Code, Storm Water and Urban Runoff Pollution Prevention Control, contains provisions to address storm water pollution issues in development and construction projects. The regulations are designed to protect the environment, improve water quality of receiving waters, and protect the health, safety and general welfare of the citizens by:

- Complying with all federal and state laws, lawful standards, and orders applicable to stormwater and urban runoff pollution control;
- Prohibiting any discharges which may interfere with the operation of, or cause any damage to the storm drain system;
- Prohibiting any eliminating illicit discharges and illegal connections to the storm drain system;
- Reducing stormwater runoff pollution to the maximum extent practicable;
- Reducing pollutant loads in stormwater and urban runoff from land uses and activities identified in the municipal NPDES permit; and
- Providing regulations and giving legal effect to certain requirements of that certain NPDES permit issued to Los Angeles County and eighty-five (85) cities by the Los Angeles Regional Water Quality Control Board, Los Angeles Region, on November 8, 2012, and as may subsequently be amended (Ord. 5857 § 3, 2015; 5268 § 5, 2001).

FINAL ENVIRONMENTAL IMPACT REPORT GRAYSON REPOWERING PROJECT

ENVIRONMENTAL IMPACT ANALYSIS
March 1, 2018

4.7.3 ENVIRONMENTAL IMPACTS

4.7.3.1 Methodology

There are three phases of the Project that have the potential to impact hydrology/water quality: 1.) Decommissioning and Demolition of Existing Facilities; 2.) Construction of New Facilities; and 3.) Operation of the Repowered Power Plant. Potential impacts from each of these three phases are described in this section.

Thresholds of Significance

As described in the Grayson Repowering Project Initial Study, three criteria from Appendix G of the CEQA Guidelines related to Hydrology and Water Quality were determined to result in potentially significant impacts (City of Glendale, 2016a). Other criteria from Appendix G of the CEQA Guidelines related to Hydrology and Water Quality were determined to result in less than significant impacts or no impacts. Therefore, only the three criteria determined to result in potentially significant impacts from the Initial Study will be discussed in this analysis.

Based on Appendix G of the GEQA Guidelines, implementation of the Project would result in a significant adverse impact on the environment related to hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

4.7.4 PROJECT IMPACTS

Threshold: *Violate any water quality standards or waste discharge requirements?*

Decommissioning and Demolition/Construction of New Facilities

Soil temporarily exposed during excavation and grading activities associated with construction of the Project may be subject to sheet erosion during rain events thereby increasing the level of suspended solids in flows emanating from the site. In addition, the demolition of the existing facility may result in the exposure and/or disruption of contaminated soils, which may impact surface water quality during storm flows. To comply with applicable requirements of the NPDES program and Chapter 13.29, Stormwater and Urban Runoff Pollution Prevention Control and



FINAL ENVIRONMENTAL IMPACT REPORT GRAYSON REPOWERING PROJECT

ENVIRONMENTAL IMPACT ANALYSIS
March 1, 2018

Standard Urban Stormwater Mitigation Plan (SUSMP) of the Glendale Municipal Code, the applicant is required to prepare a SWPPP containing structural treatment and source control measures appropriate for the Project, which would be incorporated as a condition of approval. The SWPPP will incorporate BMPs that control pollutant discharges through the use of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). Examples of BAT/BCT include straw wattles and/or hay bales, straw bale inlet filters, filter barriers, and silt fences. Implementation of the measures included in the SWPPP as well as those included in the Project's Soil Management Plan (Appendix E.4) would ensure that RWQCB water quality standards are met during demolition and construction activities associated with the Project. Therefore, impacts would be less than significant during demolition or construction.

Level of Significance before Mitigation:

Less than Significant Impact

Mitigation Measures:

No mitigation is required

Level of Significance after Mitigation:

Less than Significant Impact

Operation

Stormwater Management

As part of the Project's design, storm water that is not captured in containment areas would be captured via a storm drain system and processed as discussed below before being discharged either to the sanitary sewer or to the Verdugo Wash or Los Angeles River in compliance with current RWQCB rules and regulations thereby eliminating the possibility of discharge directly into the Verdugo Wash or Los Angeles River without pretreatment and providing of infiltration back into the groundwater basin.

Stormwater that falls within the plant in pavement areas and outside the process equipment containment areas would flow via surface sheet flow and localized gutters to catch basins and on-site storm drain piping. Based on industry standard of care, the on-site, underground storm drain system would be hydraulically sized for the 10-year storm event at a minimum or 50-year storm event in the case of a localized sump condition. The Project is proposed to have both 10- and 50-year systems; 10-year for standard industry locations, and 50-year for areas subject to ponding. A hydrology drainage study was prepared for the Project that indicates that the 50-year storm event would result in a flow rate of approximately 25 cubic feet per second of

FINAL ENVIRONMENTAL IMPACT REPORT GRAYSON REPOWERING PROJECT

ENVIRONMENTAL IMPACT ANALYSIS
March 1, 2018

stormwater runoff to be discharged to the Verdugo Wash and Los Angeles River. The hydrology study/preliminary drainage plan is included as Appendix H.

The storm drain piping would be connected to an on-site collection and treatment system for the design storm event as required by state and local agencies for treatment. The design storm would account for the "first flush" of site stormwater runoff as determined by the 85th percentile storm event that would be captured and treated by a new collection system that would allow for infiltration. The collection system would be designed to prevent discharge of surface runoff water containing free oil or grease and the removal of suspended solids. Rainfall amounts exceeding the 85th percentile would be discharged through the existing storm drains to the Verdugo Wash or Los Angeles River.

The system would meet all applicable effluent discharge standards set by the RWQCB and other regulatory agencies before discharging through the existing stormwater outfalls to the Verdugo Wash and the Los Angeles River.

A sampling location would be provided downstream of the treatment system to allow for sampling and testing of site runoff effluent prior to entering the adjacent channels. During storm events that are larger than the design storm, overflow runoff would be discharged into the adjacent Verdugo Wash and Los Angeles River through existing stormwater outfalls.

The proposed stormwater capture, treatment and infiltration system would result in improved drainage conditions and stormwater runoff quality compared to the existing system. Based on the improvements to the facility's stormwater management systems proposed as part of the Project, impacts related to water quality and stormwater discharge would be less than significant and would actually result in a beneficial impact.

Level of Significance before Mitigation:

Less than Significant Impact

Mitigation Measures:

No mitigation is required.

Level of Significance after Mitigation:

Less than Significant Impact

FINAL ENVIRONMENTAL IMPACT REPORT GRAYSON REPOWERING PROJECT

ENVIRONMENTAL IMPACT ANALYSIS
March 1, 2018

Threshold: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?*

Decommissioning and Demolition/Construction of New Facilities

Construction activity associated with the Project may result in wind- and water-driven erosion of soils due to minor grading activities if soil is stockpiled or exposed during construction. However, this impact is considered short term in nature because the site would expose a relatively small amount of soil during construction activities and would then be covered with building and pavement upon completion of the Project. Soils disturbed during demolition and/or construction would be handled in accordance with the Project's Soil Management Plan (Appendix E.4). Furthermore, as part of the Project, the applicant would be required to adhere to conditions under the NPDES Permit set forth by the RWQCB, and to prepare and submit a SWPPP to be administered throughout Project construction. The SWPPP would incorporate BMPs to ensure that potential water quality impacts from water-driven erosion during construction would be reduced to a less than significant level.

Operation

The Project site is currently developed and is served by an existing storm water collection and conveyance system. As noted above, the existing facility is covered entirely with impervious surfaces, and the Project would not require any substantial changes to the existing drainage pattern of the site or the area, nor would it significantly affect the quantity of runoff from the facility. All runoff would continue to be conveyed via sheet flow to the storm drain system serving the facility. In fact, the Project will modify the existing drainage pattern of the site and will improve the capacity of the storm drain system as described above.

Furthermore, as discussed above, the SWPPP would incorporate BMPs by requiring controls of pollutant discharges that utilize BAT and BCT to reduce pollutants. In addition, in accordance with Chapter 13.42, Stormwater and Urban Runoff Pollution Prevention Control and Standard Urban Stormwater Mitigation Plan of the Glendale Municipal Code, a SUSMP containing design features and BMPs to reduce post-construction pollutants in stormwater discharges would be required as part of the Project. Consequently, impacts are considered to be less than significant.

Level of Significance before Mitigation:

Less than Significant Impact

Mitigation Measures:

No mitigation is required

FINAL ENVIRONMENTAL IMPACT REPORT GRAYSON REPOWERING PROJECT

ENVIRONMENTAL IMPACT ANALYSIS
March 1, 2018

Level of Significance after Mitigation:

Less than Significant Impact

Threshold: *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Decommissioning and Demolition/Construction of New Facilities

As part of the Project, the applicant would be required to adhere to conditions under the NPDES Permit set forth by the RWQCB, and to prepare and submit a SWPPP to be administered throughout Project construction. The SWPPP would incorporate BMPs to ensure that potential water quality impacts from water-driven erosion during construction would be reduced to a less than significant level.

As discussed above, the SWPPP would incorporate BMPs by requiring controls of pollutant discharges that utilize BAT and BCT to reduce pollutants. In addition, in accordance with Chapter 13.42, Stormwater and Urban Runoff Pollution Prevention Control and Standard Urban Stormwater Mitigation Plan of the Glendale Municipal Code, a SUSMP containing design features and BMPs to reduce post-construction pollutants in stormwater discharges would be required as part of the Project. Consequently, impacts are considered to be less than significant.

Please refer to the above responses for more detailed discussion.

Level of Significance before Mitigation:

Less than Significant Impact

Mitigation Measures:

No mitigation is required

Level of Significance after Mitigation:

Less than Significant Impact